WHAT IS CLAIMED IS:

1. A passive optical network comprising:

a plurality of optical networks units, each unit having an assigned code and transmit signals modulated by the code, wherein each unit is configured the use error correction codes with transmitted signals, and control frequencies of the signals; and

a central office configured to decode the signals from an optical network unit, and provides error counts of the error correction code to the optical networks units.

2. A passive optical network as claimed in claim 1, wherein the passive optical network is a code division multiple access optical network.

3. A passive optical network as claimed in claim 2, wherein the frequencies of the optical signal are controlled using error counts from the central office.

4. A passive optical network as claimed in claim 3, wherein the assigned code is a pseudo-noise code.

5. A passive optical network as claimed in claim 4, wherein the optical signals from the optical line unit are upstream signals and signals from the central office are downstream signals.

6. A passive optical network as claimed in claim 5, wherein the central office comprises:

a multiplexer for mulitplxing the error counts of the error correction codes and the downstream signals for the optical networks units:

a first pseudo-noise code generator for generating a pseudo-noise code for code division multiple for each subscriber;

a first code division encoder for code division encoding the multiplexed signals by the multiplexer with the pseudo-noise code generated by the pseudo-noise code generator;

a downstream light source for transmitting and converting the code division encoded signals into optical signals;

a first photo-electric converter for converting the optical signals from the optical networks units into electrical signals;

a first code division decoder for code division decoding signals from the first photo-electric converter using the pseudo-noise code generated by the first pseudo-noise code generator; and

a error correction code demodulator for transferring an error counter from the error correction code of the code division-decoded signals to the multiplexer.

7. A passive optical network as claimed in claim 6, wherein the optical networks units comprises:

a second photo-electric converter for converting the downstream signals from the central office into the electric signals;

a second pseudo-noise code generator for generating pseudo-noise code assigned to the optical networks units for code division multiple;

a second code division decoder for code division decoding the electric signals from the second photo-electric converter with the pseudo-noise code of the second pseudo-noise code generator;

a demultiplexer for demultiplexing the multiplexed downstream signals and error counter of error correction codes from the code division-decoded signals;

an error correction code modulator for modulating and inserting error correction code into the upstream signals in upstream transmission;

a second code division encoder for code division encoding the signals modulated from the error correction code modulator by the second pseudo-noise code generator;

an upstream light source for transmitting the code division encoded signals into optical signals; and

a light source bias controller for controlling the upstream light source bias current by using error counter transmitted from the demultiplexer.

8. A passive optical network as claimed in claim 5, wherein the central office comprises:

a multiplexer for mulitplxing error counts of the error correction codes and the downstream signals for the optical networks units;

a first pseudo-noise code generator for generating pseudo-noise codes for code division multiple for each subscriber;

a first code division encoder for code division encoding the multiplexed signals with the pseudo-noise codes generated by the pseudo-noise code generator;

a downstream light source for transmitting and converting the code division encoded signals into optical signals;

a first photo-electric converter for converting the optical signals from the optical networks units into electrical signals;

a error correction code demodulator for extracting error counter from error correction codes of the code division decoded signal included electric signals converted by the first photo-electric converter and transferring the extracted error counter to the multiplexer; and

a first code division decoder for code division decoding signals not having the error counter of the error correction code extracted by the error correction code demodulator with the pseudo-noise code generated by the first pseudo-noise code generator.

9. A passive optical network using error correction code as claimed in claim 8, wherein the optical networks units comprises :

a second photo-electric converter for converting the downstream signals received from the central office into the electric signals;

a second pseudo-noise code generator for generating pseudo-noise codes assigned to the optical networks units for code division multiple;

a second code division decoder for code division decoding the electric signals from the second photo-electric converter with pseudo-noise codes of the second pseudo-noise code generator;

a demultiplexer for demultiplexing the multiplexed downstream signals and error counter of error correction codes from the code division-decoded signals;

a second code division encoder for code division encoding upstream signals by the second pseudo-noise code generator;

an error correction code modulator for modulating and inserting error correction codes into the upstream signals code division encoded by the second code division encoder in time of upstream transmission;

an upstream light source for transmitting the code division encoded signals into optical signals; and

a light source bias controller for controlling the upstream light source bias current by means of error counter transmitted from the demultiplexer.

10. A passive optical network as claimed in claim 1, wherein an error correction code comprises the Reed-solomon code.

11. A passive optical network as claimed in claim 1, wherein an error correction code comprises the BCH code.

12. A passive optical network as claimed in claim 1, wherein an error correction code comprises the turbo cord.

13. A passive optical network as claimed in claim 1, wherein an error correction code comprises the LDPC cord.

14. An optical network unit for use in a passive optical network, the optical network unit comprising, a processor configured to (1) transmit signals modulated by an assigned code, (2) use error correction codes with the transmitted signals, and (3) control frequencies of the transmitted signals by using an error correction code response from a central office.